

# PUBLIC HEALTH FACT SHEET

## Plague

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### What is plague?

Plague is caused by the bacteria (germ) *Yersinia pestis* and these bacteria can infect both humans and animals. The germs are found in rodents and their fleas in many parts of the world. In the U.S., plague is rare and is found mostly in the West and Southwest. There are two major types of plague illness that people can get: bubonic plague and pneumonic plague. Plague has not been reported to occur in Massachusetts in the last century.

### How is plague spread?

In the United States, wild rodent plague occurs mainly in squirrels and prairie dogs. Bubonic and pneumonic plague is spread by a bite from an infected flea (a flea that is carrying the germ). You may also get bubonic and pneumonic plague from a bite or scratch from infected wild rodents (mice and rats) and cats. People who handle tissue from infected animals or have other exposures to infected animals are at increased risk.

Pneumonic plague can spread from person to person by sneezing or coughing. People must have face-to-face contact with the ill person. Pneumonic plague can also be spread to people by cats with pneumonic plague. Bubonic plague does not usually spread from person to person unless the person with bubonic plague also develops pneumonic plague.

### Can plague be used for bioterrorism?

Yes. Bioterrorism is the use of any biological organism to hurt people or create fear. The Centers for Disease Control and Prevention lists plague as a possible bioterrorist agent.

### What are the symptoms of plague?

Initial symptoms of plague can include fever, chills, muscle aches, headache, sore throat, nausea, vomiting, diarrhea, abdominal pain, and extreme exhaustion. Swollen and tender lymph nodes (glands located in the armpits, neck, groin and other places) are typical of bubonic plague. The symptoms of pneumonic plague include coughing and difficulty breathing, which may develop into a severe pneumonia. Both types may also develop into blood infections with severe complications such as meningitis (inflammation of the tissue, called meninges, that surrounds the brain and spinal cord) and shock.

### How soon after exposure do symptoms appear?

Symptoms begin to appear 1 to 7 days after exposure to the germ.

### How is plague diagnosed?

Diagnosis of plague is made by laboratory tests that look for the germ in various specimens such as blood and spinal fluid.

### How is plague treated?

Bubonic and pneumonic plague can be treated with antibiotics, if caught early. Both forms of the plague are almost always fatal if left untreated or if treatment is delayed for too long.

## **Is there a vaccine for plague?**

There is no vaccine against plague that is currently available.

## **How can plague be prevented?**

When traveling to areas where plague is common, it is important to avoid exposures to animals that may carry fleas infected with plague bacteria. It is also important to avoid contact with people who have pneumonic plague. However, there is an antibiotic treatment to protect persons who have had unprotected face-to-face contact with infected people. People with pneumonic plague should be isolated until 3 full days of antibiotic treatment have been given.

To avoid becoming infected with plague, follow these tips:

- Avoid unnecessary contact with animals such as mice, rats, prairie dogs and squirrels, and use protective gloves if handling is necessary.
- Heed any plague advisories while visiting the southwestern United States.
- Prevent rodent access to food and shelter by ensuring appropriate storage and disposal of food, garbage, and refuse.
- Use an appropriate insect (flea) repellent while camping in rural areas where plague is common, and report dead or sick animals to park rangers or public health authorities.
- Also, prevent flea infestation of your dogs and cats.
- For more information regarding national/international travel and plague, contact the Centers for Disease Control and Prevention (CDC) Traveler's Health office at (877) 394-8747 or through the internet at <http://www.cdc.gov/travel>.

## **Where can I get more information?**

- Your doctor, nurse or clinic
- The Centers for Disease Control and Prevention (CDC) website at: <http://www.bt.cdc.gov/>
- Your local board of health (listed in the telephone directory under "government")
- The Massachusetts Department of Public Health, Division of Epidemiology and Immunization at (617) 983-6800 or toll-free at (888) 658-2850 or on the MDPH website at <http://www.mass.gov/dph>

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